

Section 1. Registration Information

Source Identification

Facility Name:	Valley Generating Station
Parent Company #1 Name:	City of Los Angeles Department of Water and Power
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	5-year update (40 CFR 68.190(b)(1))
Description:	
Receipt Date:	24-Oct-2014
Postmark Date:	24-Oct-2014
Next Due Date:	24-Oct-2019
Completeness Check Date:	24-Oct-2014
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0017 5954
Other EPA Systems Facility ID:	CAD000081513
Facility Registry System ID:	1100 1244 4417

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	
Parent Company #1 DUNS:	21178491
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	11801 Sheldon Street
Street 2:	
City:	Sun Valley
State:	CALIFORNIA
ZIP:	91352
ZIP4:	
County:	LOS ANGELES

Facility Latitude and Longitude

Latitude (decimal):	34.246760
Longitude (decimal):	-118.38953
Lat/Long Method:	Interpolation - Digital map source (TIGER)
Lat/Long Description:	Storage Tank
Horizontal Accuracy Measure:	2
Horizontal Reference Datum Name:	North American Datum of 1983
Source Map Scale Number:	

Owner or Operator

Operator Name:	Department of Water and Power
Operator Phone:	(213) 367-4697

Mailing Address

Operator Street 1:	111 North Hope Street, Room 1050
Operator Street 2:	
Operator City:	Los Angeles
Operator State:	CALIFORNIA
Operator ZIP:	90012
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Bradford M. Chow
RMP Title of Person or Position:	Electrical Service Manager
RMP E-mail Address:	bradford.chow@ladwp.com

Emergency Contact

Emergency Contact Name:	Bradford M. Chow
Emergency Contact Title:	Electrical Service Manager
Emergency Contact Phone:	(818) 771-4500
Emergency Contact 24-Hour Phone:	(818) 771-4560
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	bradford.chow@ladwp.com

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	(213) 367-1361
Facility or Parent Company WWW Homepage Address:	www.ladwp.com

Local Emergency Planning Committee

LEPC:	California Region 1 LEPC
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Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	56
FTE Claimed as CBI:	

Covered By

OSHA PSM :	
EPCRA 302 :	Yes
CAA Title V:	Yes

Air Operating Permit ID:

800193

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency)

13-Aug-2013

Date:

Last Safety Inspection Performed By an External Agency:

Fire Department

Predictive Filing

Did this RMP involve predictive filing?:

Yes

Preparer Information

Preparer Name:

Preparer Phone:

Preparer Street 1:

Preparer Street 2:

Preparer City:

Preparer State:

Preparer ZIP:

Preparer ZIP4:

Preparer Foreign State:

Preparer Foreign Country:

Preparer Foreign ZIP:

Confidential Business Information (CBI)

CBI Claimed:

Substantiation Provided:

Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents:

See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:

1000058568

Description:

Aqueous Ammonia Storage 1

Process Chemical ID:

1000071532

Program Level:

Program Level 2 process

Chemical Name:

Ammonia (conc 20% or greater)

CAS Number:

7664-41-7

Quantity (lbs):

44428

CBI Claimed:

Flammable/Toxic:

Toxic

Process ID:	1000058569
Description:	Aqueous Ammonia Storage 2
Process Chemical ID:	1000071533
Program Level:	Program Level 2 process
Chemical Name:	Ammonia (conc 20% or greater)
CAS Number:	7664-41-7
Quantity (lbs):	98319
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000058568
Process NAICS ID:	1000059564
Program Level:	Program Level 2 process
NAICS Code:	221112
NAICS Description:	Fossil Fuel Electric Power Generation

Process ID:	1000058569
Process NAICS ID:	1000059565
Program Level:	Program Level 2 process
NAICS Code:	221112
NAICS Description:	Fossil Fuel Electric Power Generation

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000047410

Percent Weight:	29.0
Physical State:	Liquid
Model Used:	EPA's OCA Guidance Reference Tables or Equations
Release Duration (mins):	654
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	Yes
Other Type:	

Toxic Worst ID: 1000047411

Percent Weight:	29.0
Physical State:	Liquid
Model Used:	EPA's OCA Guidance Reference Tables or Equations
Release Duration (mins):	459
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	Yes
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000050440

Percent Weight:	29.0
Physical State:	Liquid
Model Used:	EPA's OCA Guidance Reference Tables or Equations
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	Yes
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	Yes
Flares:	
Scrubbers:	Yes
Emergency Shutdown:	Yes
Other Type:	ammonia sensors and alarms

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

No records found.

Section 8. Program Level 2

Description:

Aqueous Ammonia Storage

Program Level 2 Prevention Program Chemicals

Prevention Program Chemical ID:	1000037924
Chemical Name:	Ammonia (conc 20% or greater)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7

Process ID:	1000058568
Description:	Aqueous Ammonia Storage 1
Prevention Program Level 2 ID:	1000037398
NAICS Code:	221112

Safety Information

Safety Review Date (The date of the most recent review or revision of the safety information):	09-Oct-2014
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Safety Compliance Regulations or Design Codes/Standards

NFPA 58 (or state law based on NFPA 58):	
OSHA (29 CFR 1910.111):	
ASTM Standards:	Yes
ANSI Standards:	Yes
ASME Standards:	Yes
None:	
Other Regulation, Design Code, or Standard:	UBC, UFC
Comments:	

Hazard Review

Hazard Review Date (The date of completion of most recent review or update):	25-Sep-2014
Change Completion Date (The expected or actual date of completion of all changes resulting from the hazard review):	15-Apr-2017

Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	
Corrosion:	
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes

Loss of Cooling, Heating, Electricity, Instrument Air: Yes
Earthquake: Yes
Floods (Flood Plain):
Tornado:
Hurricanes:
Other Major Hazard Identified:

Process Controls in Use

Vents: Yes
Relief Valves: Yes
Check Valves: Yes
Scrubbers: Yes
Flares:
Manual Shutoffs: Yes
Automatic Shutoffs: Yes
Interlocks: Yes
Alarms and Procedures: Yes
Keyed Bypass:
Emergency Air Supply:
Emergency Power: Yes
Backup Pump: Yes
Grounding Equipment: Yes
Inhibitor Addition:
Rupture Disks:
Excess Flow Device:
Quench System:
Purge System:
None:
Other Process Control in Use:

Mitigation Systems in Use

Sprinkler System:
Dikes: Yes
Fire Walls:
Blast Walls:
Deluge System:
Water Curtain:
Enclosure:
Neutralization:
None:
Other Mitigation System in Use:

Monitoring/Detection Systems in Use

Process Area Detectors: Yes
Perimeter Monitors:
None:
Other Monitoring/Detection System in Use:

Changes Since Last PHA or PHA Update

Reduction in Chemical Inventory:
Increase in Chemical Inventory:

Change Process Parameters:
Installation of Process Controls:
Installation of Process Detection Systems:
Installation of Perimeter Monitoring Systems:
Installation of Mitigation Systems:
None Recommended:
None: Yes
Other Changes Since Last PHA or PHA Update:

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures): 28-Aug-2014

Training

Training Review Date (The date of the most recent review or revision of training programs): 25-Sep-2014

The Type of Training Provided

Classroom: Yes
On the Job: Yes
Other Training:

The Type of Competency Testing Used

Written Tests:
Oral Tests:
Demonstration: Yes
Observation: Yes
Other Type of Competency Testing Used:

Maintenance

Maintenance Review Date (The date of the most recent review or revision of maintenance procedures): 23-Sep-2014
Equipment Inspection Date (The date of the most recent equipment inspection or test): 30-Sep-2013
Equipment Most Recently Inspected or Tested: Aqueous ammonia storage tank, process instrumentation, piping, pumps and valves

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit): 01-May-2013
Audit Completion Date (The expected or actual date of completion of all changes resulting from the compliance audit):

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):

Incident Investigation Changes Date (Expected or actual date of completion of all changes resulting from the investigation):

Most Recent Change Date: (The date of the most recent change that triggered a review or revision of safety information):

Confidential Business Information

CBI Claimed:

Description:

Aqueous Ammonia Storage

Program Level 2 Prevention Program Chemicals

Prevention Program Chemical ID: 1000037925
Chemical Name: Ammonia (conc 20% or greater)
Flammable/Toxic: Toxic
CAS Number: 7664-41-7

Process ID: 1000058569
Description: Aqueous Ammonia Storage 2
Prevention Program Level 2 ID: 1000037399
NAICS Code: 221112

Safety Information

Safety Review Date (The date of the most recent review or revision of the safety information): 09-Oct-2014

Safety Compliance Regulations or Design Codes/Standards

NFPA 58 (or state law based on NFPA 58):
OSHA (29 CFR 1910.111):
ASTM Standards: Yes
ANSI Standards: Yes
ASME Standards: Yes
None:
Other Regulation, Design Code, or Standard: UBC, UFC
Comments:

Hazard Review

Hazard Review Date (The date of completion of most recent review or update): 25-Sep-2014
Change Completion Date (The expected or actual date of completion of all changes resulting from the hazard review): 15-Apr-2017

Major Hazards Identified

Toxic Release: Yes
Fire:
Explosion:
Runaway Reaction:
Polymerization:
Overpressurization:
Corrosion:
Overfilling: Yes
Contamination:
Equipment Failure: Yes
Loss of Cooling, Heating, Electricity, Instrument Air: Yes

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	Yes
Flares:	
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA or PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	

Installation of Process Controls:
Installation of Process Detection Systems:
Installation of Perimeter Monitoring Systems:
Installation of Mitigation Systems:
None Recommended:
None: Yes
Other Changes Since Last PHA or PHA Update:

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures): 28-Aug-2014

Training

Training Review Date (The date of the most recent review or revision of training programs): 25-Sep-2014

The Type of Training Provided

Classroom: Yes
On the Job: Yes
Other Training:

The Type of Competency Testing Used

Written Tests:
Oral Tests:
Demonstration: Yes
Observation: Yes
Other Type of Competency Testing Used:

Maintenance

Maintenance Review Date (The date of the most recent review or revision of maintenance procedures): 23-Sep-2014
Equipment Inspection Date (The date of the most recent equipment inspection or test): 30-Sep-2013
Equipment Most Recently Inspected or Tested: Storage tanks, process instrumentation, piping, pump, and valves

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit): 01-May-2013
Audit Completion Date (The expected or actual date of completion of all changes resulting from the compliance audit):

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):
Incident Investigation Changes Date (Expected or actual date of completion of all changes resulting from the investigation):

Most Recent Change Date: (The date of the most recent change that triggered a review or revision of safety information):

Confidential Business Information

CBI Claimed:

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):

Facility Plan (Does facility have its own written emergency response plan?):

Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):

Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):

Healthcare (Does facility's ER plan include information on emergency health care?):

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated): Los Angeles Fire Department

Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated): (213) 485-6276

Subject to

OSHA Regulations at 29 CFR 1910.38: Yes

OSHA Regulations at 29 CFR 1910.120: Yes

Clean Water Regulations at 40 CFR 112: Yes

RCRA Regulations at CFR 264, 265, and 279.52:

OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254: Yes

State EPCRA Rules or Laws:

Other (Specify): California Business Plan, CCR Title 19, Sections 2729-2732

Executive Summary

Accidental Release Prevention and Emergency Response Policies

The City of Los Angeles Department of Water and Power (LADWP) accidental release prevention policy involves a unified approach that integrates technologies, procedures, and management practices. All applicable procedures of the California Accidental Release Prevention (CalARP) Program and U.S. Environmental Protection Agency (EPA) Prevention Program are adhered to. The LADWP emergency response policy involves the preparation of response action plans that are tailored to each facility and to the emergency response services available in the community, and is in compliance with the State and Federal Emergency Response Program requirements.

General Description of the Stationary Source and Regulated Substance

The Valley Generating Station (VGS) is a 150-acre electric power generating facility designed to generate and supply electric power to the LADWP's system. The facility has combined cycle generating facility (CCGF) that includes two combustion gas turbines (CTs), a steam turbine generator, two heat recovery steam generators (HRSGs) and associated selective catalytic reduction (SCR) systems, cooling towers and ancillary equipment. CCGF is fired by natural gas with the capability to fire with distillate fuel under emergency conditions. CCGF covers approximately 10 acres of land at VGS. The total Station gross capacity will be 583 MW.

The Station is manned and operated at all times, with a minimum operating crew consisting of 2 operators and a supervisor. Valley GS was constructed in approximately 1951. Valley GS has a gate that is manned with a security guard 24 hours per day.

The facility is located in Sun Valley, California. The area surrounding the facility is primarily commercial/light industrial; however, a day time emergency clinic, a hospital, and two motels are present on San Fernando Road, approximately 1,900 feet from the existing aqueous ammonia storage tank at the Peaker Plant (located northwest of the facility). A sand and gravel plant is located adjacent to the northwest of the site. There are no residences in the immediate vicinity of VGS. The nearest residential properties are located approximately one-half mile to the north of the facility.

Aqueous Ammonia Process Description:

LADWP has selective catalytic reduction (SCR) systems that reduce nitrogen oxides (NOx) emissions from an existing 47-MW combustion turbines and two combustion gas turbines (CTs). The CTs are located at the new combined cycle generating facility (CCGF). The existing SCR for the 47-MW combustion turbine utilizes aqueous ammonia stored in a steel aboveground storage tank (AST). The CCGF utilizes two additional aqueous ammonia ASTs. The storage tanks are all located within secondary containment areas equipped with a sump and pump for pumping out rainwater. The containment areas are designed to hold the contents of the largest tank as well as account for a 25-year flood scenario.

Aqueous Ammonia Handling and Storage

The Ammonia Handling and Storage system supplies ammonia solution to the NOx emission control system. Ammonia solution is used instead of anhydrous ammonia because the latter has some serious inherent safety hazards requiring significant precautions and safety equipment in handling and storing. The risks and safety related costs of anhydrous ammonia are found to outweigh the higher costs for transportation and storage of ammonia solution.

There are two aqueous ammonia storage areas, one for the CTs and one for the CCGF. The product tanks are located within secondary containment areas (concrete dike) with sumps. Two positive displacement pumps, each fully redundant, dispense ammonia solution from the ASTs to the emission control equipment. Other safety equipment associated with the tanks are: pressure/vacuum relief valves, temperature and pressure indicators, pressure and liquid level alarms, an ammonia vapor scrubber, cam-lock fill connections, vapor recovery and associated piping, strategically-located ammonia vapor detectors, and an emergency eyewash/shower station. A wind sock is also provided for visual indication of wind direction in case of emergency evacuation.

Ammonia solution is delivered by truck into the storage tanks through a 2-inch cam-lock hose connections. The truck parks within a concrete area that is provided with a collection sump to contain spills from the delivery truck. The ammonia solution unloading to the storage tank is done through a quick fill connection. A truck-mounted vapor recovery system is connected to the tank vapor recovery system during the unloading. The storage tanks are equipped with pressure and vacuum relief valves and the tanks are

maintained at ambient temperature and atmospheric pressure.

The storage tank redundant dispensing pump is placed into service when the main pump fails or is out of service for preventive maintenance. The loading operator is provided with a readily accessible water supply to wash spills quickly. All spills are collected and disposed of in accordance with federal, state and local waste disposal requirements. Flashing lights and audible alarms at the tanks and in the main control room are activated when the ammonia gas monitors detect the gas concentration above 20 parts per million in the surrounding area.

Offsite Consequence Analysis Results

The OCA is conducted in accordance with the latest RMP OCA guidance document that has been developed by the USEPA in conjunction with the National Oceanographic and Atmospheric Administration (NOAA). The OCA is performed to determine the distance traveled by the ammonia released before its concentration decreases to the "toxic endpoint" of 0.14 mg/l or 200 parts per million, which is the Emergency Planning Guidance Level 2 (ERPG-2).

Worst-case Release Scenario

The worst-case release scenario involves the failure of the largest bulk storage tank of each process. The entire volume of the solution is contained within the secondary containment system. The regulatory default meteorological parameters, including wind stability F, wind speed 1.5 m/s, and a release temperature of 110F (maximum daily temperature at the nearest monitoring station), 50% average humidity and urban surroundings, were used. The estimated toxic endpoint distance for the worst-case release scenario potentially affects some public receptors.

Alternative Release Scenario

The alternative release scenario involves the spill of the ammonia solution as a result of the rupture of a two-inch diameter, 100 feet long flexible transfer hose during the bulk transferring of the solution from a tanker truck to the storage tanks. The transfer pump is manually shut off within 15 seconds after the hose rupture. The volume of released solution spills onto the paved ground that slopes into a bermed area. The regulatory default meteorological conditions used were: wind stability D, wind speed 3.0 m/s, and a release temperature of 110F (maximum daily temperature at the nearest monitoring station), 50% average humidity, and urban surroundings. For this alternative release scenario, the distance to the toxic endpoint listed in the OCA guidance document (Reference Table 23) is less than 0.1 miles from the ammonia storage area, which does not reach any public or environmental receptors.

Summary of the General Accidental Release Prevention Program and Ammonia Accidental Release Prevention

The general LADWP accidental release prevention program is based on the following key elements:

- High level of training of the operators in safe handling of chemicals,
- Effective preventive maintenance program,
- Use of state-of-the-art process and safety equipment,
- Use of accurate and effective operating procedures, written with the participation of the operators,
- Performance of a hazard review of equipment and procedures, and
- Implementation of an auditing and inspection program.

Other specific steps to prevent accidental ammonia releases include:

- Required ammonia safe handling training of tank truck drivers from suppliers as well as their equipment preventive maintenance program,
- The availability of personal protective equipment at close proximity to the storage tanks,
- The installation of tank liquid level alarms, pressure level alarms, pressure/vacuum relief valve, vapor recovery system, gas scrubbers, and ammonia gas detectors and alarms around the storage area, and
- The installation of secondary containment systems and sumps.

Summary of the Five Year Accident History

No accidental releases of ammonia gas or solution that meet the reporting requirement of the EPA's RMP have occurred at this facility for the past five years.

Summary of the Emergency Action Plan

The facility has an emergency action plan, which includes an emergency action decision tree and a notification plan. Emergency action drills and drill evaluations are conducted every year; emergency operations and procedures are also reviewed at that time.

Planned Changes to Improve Safety

Many operations/maintenance and administrative changes to improve safety (recommended actions) were identified as a result of the Hazard Operability (HAZOP) study session with the facility management, operations and maintenance, and plant engineering conducted in September 2014 for the aqueous ammonia processes. These recommended actions have now been either completed or evaluated for implementation as required.